The Pakistan Development Review
45 : 4 Part II (Winter 2006) pp. 893–912

Which Institutions Are More Relevant Than Others in Inequality Mitigation?

DAWOOD MAMOON

1. INTRODUCTION

During the 1950s, 1960s and most of the 1970s inequality followed declining trends in the most developed and developing countries. However, the inequality trends have been reversed in most countries since the early 1980s. First, inequality started rising in the mid- to late- 1970s in the United States, United Kingdom, Australia and the New Zealand, which were the first among the OECD countries to adopt a neoliberal policy approach. In United Kingdom the increase in inequality was quite pronounced as the Gini coefficient of the distribution of net disposable income rose more than 30 percent between 1978 and 1991, which was twice as fast as that recorded in United States for the same period. The Scandinavian countries and the Netherlands were next to follow where inequality followed a U-shaped pattern. From 1970 to 80, Finland and France also experienced a halt in declining trends in inequality. In Italy inequality rose by 4 points between 1992 and 1995. In 1993 the Gini coefficient for Japan stood at 0.44, which is approximately the same as United States and far higher than the likes of Sweden and Denmark. Most of this increase in income inequality in these industrialised countries is explained by a rise in earnings inequality [Cornia, *et al*. (2004)]. Since 1989, inequality in the transition countries of Central Europe has also witnessed increasing trends but they remain modest when compared to former USSR and Southeastern Europe where the Gini coefficients rose on average by 10-20 points which is 304 times faster than the Gini in Central Europe. The rise in inequality in this region has been attributed to rise in returns to education following liberalisation [Rutkowski (1999)].

Partly due to the recession in the 1980s, which hit the poor harder than the rich, inequality in most Latin American states except for three (Colombia, Uruguay and Costa Rica) witness sharp rise. Gini coefficients in Latin America have been ranged between 0.45 and 0.60 since early 1950s, which are among the highest in the world. The acute polarisation of income has been rooted in a highly unequal distribution of land and educational opportunities [Cornia, *et al.* (2004)].

In China income concentration has been rising rapidly since 1985 so that the Gini coefficient reached 0.43 by 1995 and remained more or less at the same level until recently. The rise in income disparity can be attributed to a rise in urban-rural divide

Dawood Mamoon <mamoon@iss.nl> is a doctoral student and Royal Netherlands Fellow, Institute of Social Studies (ISS), The Hague, The Netherlands.

arising from a faster expansion of urban activities amid active participation of China in international markets. Among South East Asian economies, the Gini coefficient for Indonesia increased to 0.38 by 1997 from 0.32 in 1987-90.In South Asia, the inequality also followed a U-shaped pattern, though it was less pronounced. In India, the experience of 1990s points to a moderate rise in both urban and rural inequality and a larger rise in overall inequality due to widening gap between urban and rural areas. In 1990s the urban inequality rose to 0.36. The Gini coefficient in Pakistan rose from 0.39 in 1960s to 0.41 in 1990s. Much like India, the rise in overall inequality is attributed to a sharp rise in rural inequalities. Inequality in Sub Saharan Africa has been among the highest in world. There is some evidence of falling urban-rural gap but there is rising intra urban and at times intra rural inequalities. For example, in Tnazania the Gini coefficient for rural inequality rose from 0.53 in early 1980s to 0.76 in early 1990s. Similarly for Kenya, the rural inequalities increased by 9 points from 1980 to 1992 and stand at 0.49 [*Ibid* (2004)].

In the retrospect, the problem of poverty can not be separated from the way in which growth is achieved. Hence, today the principle issue in pro-poor growth debate also relates to inequality. The aim of this paper is to analyse the impact of one of the key determinant of growth on inequality. Recent literature suggests that strong institutions[1] are the key determinant of growth [i.e, see Dollar and Kraay (2003), Rodrik, *et al*. (2004), Glaeser, *et al*. (2004a), Mamoon and Murshed (2005)]. It is important to look at the different institutional setups; countries may have while working along with the surge of globalisation. For example, India is a thriving democracy but China, South Korea and Taiwan have been growing under one-party dictatorships, the last two eventually turning to democracy. Recently, Pakistan has become one of the fastest growing economies of the region, even out passing India, under rule of General Pervez Musharraf. Among the transition economies, rapid economic growth was achieved by Kazakhstan under Nazarbaev. Here one may conveniently assume that these countries have performed well under market friendly policies (i.e., trade liberalisation) and thus successfully achieved robust economic performance. However the analogy is not that simple. Market friendly policies may not work in the absence of good institutions. The failure of Russian economy and its reform process can be attributed to the lack of a supportive legal, regulatory and political apparatus. In Latin America little attention has been paid to the mechanisms of social insurance and to the safety nets which has resulted in the dissatisfaction with market oriented reforms. It may also be the case that some institutions may be more important than others. For example, even pro-market dictators can secure property rights as a matter of policy choice [Glaeser (2004a)]. Similarly, stronger social institutions lead to improved government functioning: “Education is needed for courts to operate and to empower citizens to engage with government institutions [*Ibid* (2004), p. 3)]”.

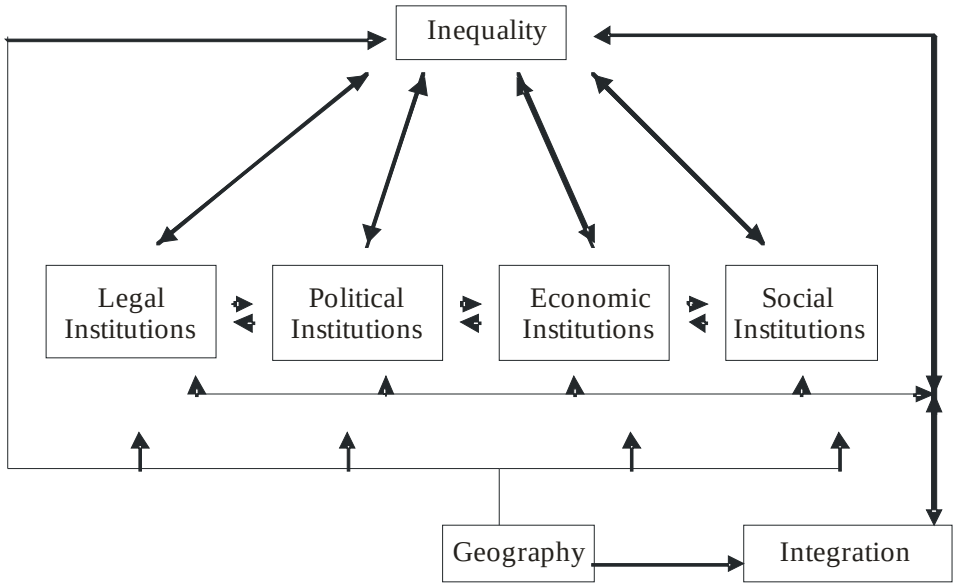
This paper tries to analyse different institutional settings, and their relationship with various definitions of inequality to shed light on the effects of pro growth policies on poverty.

[1]In this paper we have assumed education, which would otherwise be considered as a proxy for human capital, as a social institution.

2. DIFFERENT TYPES OF INSTITUTIONS, INEQUALITY, AND THE ENDOGENISING FACTORS

There are issues of two way causality between inequality and institutions [i.e., see Keefer and Knack (2002); Chong and Gradstein (2004)], between different types of institutions as shown by Figure 1 and discussed below. Many recent studies [i.e., see Chen and Ravallion (2003); Cockburn (2001); Friedman (2000); Lofgren (1999)] show that international trade is significantly related with inequality while institutions and integration are also endogenous [i.e., Rodrik, *et al*. (2004)]. Any empirical analysis which takes institutions as a pure exogenous factor while analysing its effects on inequality may lead to miss-specification bias. Here on the line of Ridrik, *et al*. (2004), we assume geography is a pure exogenous concept.

Fig. 1. Endogeniety between Institutions, Integration, and Inequality



Chong and Gradstein (2004) find strong evidence of bi-directional causality between institutions and inequality. Inequality may affect the quality of institutions. For example, high inequality will prevent the poor from investing in education or the ruling class may not invest in education so that the poor majority will not be politically active thus undermining the development of necessary social and political institutions. Easterly (2001) and Keefer and Knack (2002) suggests that social polarisation negatively affects institutional quality.

The countries with poor institutions are also likely to have high inequality. For example in Russia in the 1990s, a small group of entrepreneurs exploited their political power to promote their own interests, subverting the emergence of institutions committed to the protection of smaller share holders and businesses. According to the Corruption Perceptions Index published by Transparency International, among the transition

economies, Estonia is placed 28, and Hungary 31; whereas Russia is placed 79, and Ukraine 83. In these transition economies, weak performance of public institutions, infringement of property rights in favour of influential parties, lower willingness to use courts to resolve business disputes, lower level of tax compliance and higher levels of bribery all have been strongly correlated with inequality [Hellman and Kaufman (2002)]. Similarly, in several Latin American countries, the ruling elites, the military and large businesses impeded smaller business interests giving rise to significant informal sector. Chong and Gradstein (2004) show that when the political bias in favour of the rich is large, income inequality and poor institutional quality may reinforce each other, indicating endogeniety between the two.

There may also be inter-linkages between various institutions. For example, nearly all developed countries are democracies and most developing countries are either run under one party system, dictatorships or military regimes. The countries with lower levels of economic and human development tend to have lower levels of education, limited political rights, weak or non existent political competition, lower level of economic freedom and openness, ethno linguistic factionalism, the lack of judicial independence and a free press and high levels of permissiveness towards corruption.

Before discussing the interdependence of different institutions we would first like to differentiate between them. We identify four types of institutions: (1) Legal, (2) Political, (3) Economic and (4) Social. Legal institutions capture the transparency and fairness of legal system, political rights of the citizens, State legitimacy, freedom of speech, independence of judiciary, enforceability of contracts, police effectiveness, access to independent and impartial courts, confidence in judicial system in insuring property rights, prevention of improper practices in public sphere, control of corruption etc. Political institutions represent political stability, democracy, autocracy or dictatorship. Economic institutions include state effectiveness at collecting taxes or other forms of government revenue, states ability to create, deliver and maintain vital national infrastructure, states ability to respond effectively to domestic economic problems, independence of government economic policies from pressure from special interest groups, trade and foreign exchange system, competition policy, privatisation, banking reform and interest rate liberalisation, securities market and non-bank financial institutions etc. Social Institutions capture socio-economic conditions such as health, education and nutrition etc.

The Legal, political, economic and social institutions are strong in developed countries and for developing countries there are mixed experiences. For example, intellectual property rights are protected vigorously in the US and most advanced societies, but not in many developing countries [Rodrik (1999)]. Similarly, most rich countries in the world circa 1960 were democracies with well-educated populations. Over the subsequent 40 years, these countries grew rapidly, on average and the dispersion of their growth rates was relatively small. Most poor countries in the world circa 1960 were dictatorships with badly educated populations. These countries did not grow as rapidly as the democracies on average, but perhaps more strikingly, the dispersion of growth rates across these countries has been huge [Glaeser, *et al*. (2004b), p. 3]. Engerman and Sokoloff (2002) link the development of public education as a social institution to the democratization as a political process in US. According to them, while starting at about the similar level of development

in the 18nth century, US led the way in setting up a system of common schools and promoting literacy, where as in countries in South America and the Caribbean these processes were much delayed. Today specifically for the Carribean's, the economic development problems are associated with region's lack of diverse and open economies, government ownership of inefficient state enterprises, continued restrictive tariff barriers, failure to institute free trade measures and the lack of governance measures [Collier (2002)]. Gupta, *et al*. (1998) finds that if government officials use their authority for private gain and indulge in corruption that affects the effectiveness of social spending and the formation of human capital by perpetuating an unequal distribution of asset ownership and unequal access to education. Corruption also affects the government effectiveness as it weakens tax administration and can lead to tax evasion and improper tax evasion and improper tax exemptions. Higher corruption is associated with increases in inequalities in education, land distribution and health spending. Wealthy urban elites can lobby the government to bias social expenditure toward higher education and tertiary health, which tend to benefit high income groups [*Ibid* (1998)].

3. DATA AND METHODOLOGY

Much recently Kaufman, *et al*. (2002) formulated aggregate governance indicators for six dimensions of governance covering 175 countries. They relied on 194 different measures of governance drawn from 17 different sources of subjective governance data constructed by 15 different sources including international organisations, political and business risk rating agencies, think tanks and non governmental organisations. The governance indicators have been oriented so that higher values correspond to better outcomes on a scale from –2.5 to 2.5. They are categorised as rule of law (*Rl*), political stability (*Ps*), regulatory quality (*Rq*), government effectiveness (*Ge*), voice and accountability (*Va*) and control of corruption (*Ctc*). We divide them into four classification based on their definitions. We consider *Rl*, *Va* and *Ctc* as legal institutions. *Ge* and *Rq* are dubbed as economic institutions whereas *Ps* is taken as a proxy for Political institutions. We add two more political indicators namely democracy (*Demo*) and autocracy (*Auto*) to our analysis from Polity dataset whereas, both ranging from 0 to 10. We have also included social institutions in our analysis. Average Schooling Years in the total population at 25 (*Sch*) and Adult literacy rate (*Altr*) capture the quality of social institutions.

As we mention above, international trade is also a significant determinant of inequalities in countries across the globe, integration enters our regression model to enhance its explanatory power. We incorporate not 1 but 8 various concepts of openness and trade policy in our regression model in order to carry out a robustness check for our results on institutions. We have carefully chosen three specific measures of openness. The ratio of nominal imports plus exports to GDP (*lcopen*) is the conventional openness indicator [see Frankel and Romer (1999), Alcala and Ciccone (2002), Rose (2002), Dollar and Kraay (2003), Rodrik, *et al*. (2004)]. Two other measures of openness are overall trade penetration (*tarshov*) derived from World Bank's TARS system and overall import penetration (*Impnov*) respectively [see Rose (2002)]. Neither of these measures are direct indicators of trade policy of a country, pointing only towards the level of its participation in international trade. There are indicators of trade restrictiveness acting as

measures of trade policy [Edwards (1998), Greenaway, *et al*. (2001), Rose (2002)]. Import tariffs as percentage of imports (*Tariff*s), tariffs on intermediate inputs and capital goods (*Owti*), trade taxes as a ratio of overall trade (*Txtrg*) and total import charges (*Totimpov*) can all be considered as good proxies for trade restrictiveness and have also been employed in our study. Other measures which capture restrictions in overall trade are non-tariff barriers. We use overall non-tariff coverage (*Ntarfov*) and non-tariff barriers on intermediate inputs and capital goods (*Owqi*) as two proxies for non-tariff barriers [see Rose (2002)]. Moreover there is also a trend in the trade literature to use composite measures of trade policy. Edwards (1998) advocates the Sachs and Warner (1995) openness index (O*pen80*) as a proxy for openness.

To capture inequality we not only take GINI income inequality index (*Gini*) from UNU/WIDER World Income Inequality Database (WIID) but also we employ UTIP-UNIDO Theil measure (*Theil*) calculated by University of Texas Inequality Project (UTIP) which captures wage inequality between skilled and unskilled labour. This is motivated by several considerations. First, comparable and consistent measures of income inequality, whether on a household level or per head basis are difficult, almost implausible and generally fails to provide adequate or accurate longitudinal and cross-country coverage. On the other hand, inequality of manufacturing pay, based on UNIDO Industrial Statistics provides indicators of inequality that are more stable, more reliable and more comparable across countries because UNIDO measures are based on a two or three digit code of International Standard Industrial Classification (ISIC) a single systematic accounting framework. Furthermore, manufacturing pay has been measured with reasonable accuracy as a matter of official routine in most countries around the world for nearly forty years [Galbraith and Kum (2002)]. Further more we take income deciles and percentiles from UNU/WIDER World Income Inequality Database (WIID) as other proxies of inequality. Institutions or Integration will be guilty of inequality if it has the negative impact on the incomes of bottom 10 percent (*low10*) and positive impact on the income of the top 10 percent (*high 10)*. We also take income groups divided into quintiles where the effect of Institutions is anticipated to be negative for the ratio between top 20 percent and bottom 20 percent (*high20/low*20) and positive for the middle income groups (*Middle20*). The exercise on income deciles and percentiles will further shed light on how institutions and integration are related with income distribution. Especially, we are interested to know how quality of institutions are related with the incomes of the middle class or the ones living in bottom of income share. Each country observation for all inequality measures is taken for the latest year for which data is available and in most cases represent inequality in mid 1990s.

Our basic inequality and income share equations would look like:

Inequality = f (Institutions, Integration, Geography) … … … (1)

and Income Share= f (Institutions, Integration, Geography) … … (2)

Corresponding to Equation 1, our inequality model based on *Theil index* has 8 equations, whereas each equation corresponds to a different institutional or integration classification The model specifications for *Gini*, *High20/Low20*, *Midlle20*, *Low10* and *High10* contain same 8 equations each with same variable specifications.

$$Theil_{1i} = \alpha_1 + \beta_1 LI_i + \chi_1 Open_i + \varepsilon_{1i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

$$Theil_{2i} = \alpha_2 + \beta_2 PI_i + \chi_2 Open_i + \varepsilon_{2i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (4)$$

$$Theil_{3i} = \alpha_3 + \beta_3 EI_i + \chi_3 Open_i + \varepsilon_{3i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (5)$$

$$Theil_{4i} = \alpha_4 + \beta_4 SI_i + \chi_4 Open_i + \varepsilon_{4i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (6)$$

$$Theil_{5i} = \alpha_5 + \beta_5 LI_i + \chi_5 TP_i + \varepsilon_{5i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (7)$$

$$Theil_{6i} = \alpha_6 + \beta_6 PI_i + \chi_6 TP_i + \varepsilon_{6i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (8)$$

$$Theil_{7i} = \alpha_7 + \beta_7 EI_i + \chi_7 TP_i + \varepsilon_{7i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (9)$$

$$Theil_{8i} = \alpha_8 + \beta_8 SI_i + \chi_8 TP_i + \varepsilon_{8i} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (10)$$

The variable $Theil_i$ is Theil Index in a country i, LI_i, PI_i, EI_i, and SI_i are respectively measures for legal, political, economic and social institutions, whereas $Open_i$ measures general openness in the economy and TP_i is a measure for trade policy and ε_i is the random error term. Please refer to Appendix 1 for information on equations based on *Gini*, *High20/Low20*, *Middle20*, *Low20* and *High10*.

As we have discussed, there are potential endogenity problems between institutions and integration and between institutions and inequality itself. To this effect we have first regressed our institutional, trade policy and openness proxies on a set of instruments. Frankel and Romer (1999) suggests that we can instrument for openness by using trade/GDP shares constructed on the basis of a gravity equation for bilateral trade flows. The FR approach consists of first regressing bilateral trade flows (as a share of country's GDP) on measures of country mass, distance between the trade partners, and a few other geographical variables, and then constructing a predicted aggregate trade share for each country on the basis of coefficients estimated. Hall and Jones (1999) employed distance from the equator and the extent to which the primary languages of Western Europe are spoken as first languages today as instruments for institutions. Hall and Jones made an argument that the instruments are not correlated with the error term. Acemolgu, Johnson and Robinson (2001) identify the mortality of European settlers as a potential instrument. Using two ex-post assessments of institutional quality-risk of expropriation by the government and constraints on the executive- as measures of institutions, they showed that settler mortality is a strong predictor of institutions. However there are two drawbacks for AJR instrument. First, the data is only available for 64 countries. Though Rodrik, *et al*. (2004) have extended it to 80 countries; it still covers a relatively low number when compared to 'the extent to which the primary languages of Western Europe are spoken as first languages today' which covers as many as 140 countries. Secondly, according to Glaeser, *et al*. (2004b), AJR instrument of settler mortality fails to be orthogonal to the error term. 'Settler mortality is strongly correlated not just with ancient, but also with the modern, decease environment, suggesting that it might be the decease environment, rather than history, that matters for economic development. Secondly settler mortality is strongly correlated with human capital accumulation, suggesting that it cannot be used as an instrument for institutions [Glasear, *et al*. (2004b), p. 8]. Thus

following Dollar and Kraay (2003) and Hall and Jones (1999), we use 'fractions of the population speaking English (*Engfrac*) and Western European languages as the first language (*Eurfrac*)' as an instrument for legal, economic and political institutions. Since we are using years of schooling and adult literacy rate as a proxy for social institutions we looked for instruments which can capture the qualitative and quantitative properties in education sector. Total public spending on education (as a percentage of GDP) and primary public-teacher ratio are the two instruments proposed by Mamoon and Murshed (2005). The former instrument captures the quality of education and the later instrument captures the quantity of education. As in Rodrik, *et al*. (2004), we employ 'distance from the equator' as another instrument (proxy for geography) also employed by Hall and Jones (1999).

$$LI_i = \sigma_1 + \varsigma_1 Eng_i + \theta_1 Eur_i + \vartheta_1 FR_i + \tau_1 Disteq + \mathrm{E}_{1i} \quad \ldots \quad \ldots \quad (11)$$

$$PI_i = \sigma_2 + \varsigma_2 Eng_i + \theta_2 Eur_i + \vartheta_2 FR_i + \tau_2 Disteq + \mathrm{E}_{2i} \quad \ldots \quad \ldots \quad (12)$$

$$EI_i = \sigma_3 + \varsigma_3 Eng_i + \theta_3 Eur_i + \vartheta_3 FR_i + \tau_3 Disteq + \mathrm{E}_{3i} \quad \ldots \quad \ldots \quad (13)$$

$$Open_{1i} = \sigma_4 + \varsigma_4 Eng_i + \theta_4 Eur_i + \vartheta_4 FR_i + \tau_4 Disteq + \mathrm{E}_{4i} \quad \ldots \quad \ldots \quad (14)$$

$$TP_{1i} = \sigma_5 + \varsigma_5 Eng_i + \theta_5 Eur_i + \vartheta_5 FR_i + \tau_5 Disteq + \mathrm{E}_{5i} \quad \ldots \quad \ldots \quad (15)$$

$$SI_i = \sigma_6 + \varsigma_6 Tlex_i + \theta_6 Ptr_i + \vartheta_6 FR_i + \tau_6 Disteq + \mathrm{E}_{6i} \quad \ldots \quad \ldots \quad (16)$$

$$Open_{2i} = \sigma_7 + \varsigma_7 Tlex_i + \theta_7 Ptr_i + \vartheta_7 FR_i + \tau_7 Disteq + \mathrm{E}_{7i} \quad \ldots \quad \ldots \quad (17)$$

$$TP_{2i} = \sigma_8 + \varsigma_8 Tlex_i + \theta_8 Ptr_i + \vartheta_8 FR_i + \tau_8 Disteq + \mathrm{E}_{8i} \quad \ldots \quad \ldots \quad (18)$$

Where Eng_i and Eur_i are our instruments for legal, economic and political institutions referring to fractions of population speaking English and European languages respectively. *Tlex* is total public spending on education as a percentage of GDP and *Ptr* is primary pupil-teacher ratio and both are instruments for average years of schooling and adult literacy rate. FR_i is instrument for openness and trade policy. $Disteq_i$ is proxy for geography showing distance from the equator. At the second stage the predicted values of respective institutional, openness and trade policy variables are employed in the inequality and income share equations.

4. RESULTS

4.1. Legal Institutions

Barreto (1996) finds that corruption is positively and significantly correlated with inequality, implying that increased income inequality is associated with greater corruption. Tanzi (1995) argues that the benefits from corruption are likely to accrue to the better connected individuals in society, who mostly belong to high-income groups. It has been further contended that corruption creates incentives for higher investment in capital intensive projects and lower investment in labour intensive projects [UNDP (1997)], thus increasing the wage inequality. Gupta, *et al*. (1998) show that a worsening

of corruption index of a country by one standard deviation (2.52 points on a scale of 0 to 10) is associated with an increase in the GINI coefficient of about 4.4 points.

The results (Table 1, Appendix 1) suggest that wage inequality (*Theil*) is more sensitive to legal institutions than overall income distribution (*Gini*). Results based on the ratio of income percentiles (High20/Low20) and income deciles show that voice and accountability, rule of law and control for corruption has a strong redistributive power. The relationship between legal institutions and income of the middle income groups (*Middle20*) as well as low income groups especially for Rl and Ctc is positive and significant. This means that good quality legal institutions not only to reach out to the middle income groups but they are also altruistic to the poorest of the poor. The evidence quite robustly suggests that redistribution of income takes place from the richest to the middle class or lower middle class as all the three proxies of legal institutions are negatively and significantly related with the incomes of the richest 10 percent or 20 percent in most of the cases.

4.2. Economic Institutions

Every government must maintain a sustainable fiscal policy, which includes a deficit that is manageable in the short term, and the associated public debt it creates being serviceable. More concentration of resources on social sector is always pro-poor. The value added tax has received exaggerated appreciation and has not faced its due criticism. In the world when poverty reduction strategies are implemented and inequalities are growing, value added tax needs to give way to more pro poor tax system [Roy and Weeks (2003)]. Inflation in many developing countries is an outcome of political decision when government has a lax monetary policy and is unable or unwilling to increase taxes. High inflation has a negative distribution effects. In developed countries sometimes monetary policy outcomes are related with increased inequalities. Khalifa (2005), shows that a positive shock to Federal Reserve fund rates in US induce a larger and more persistent increase in the unemployment ratio of the low skilled relative to that of high skilled, indicating that low skilled bear the brunt of the increase in unemployment after a contractionary policy.

Result summary in Table 1 (Appendix I) indicates that government effectiveness is negatively and significantly related with wage inequality between skilled and unskilled. However, the relationship is weak at best with *Gini*. Though it does not mean that effectiveness of government policies do not carry redistributive effects. Our results show that if the governments which work in the interest of public; they have a significant and positive effect on the incomes of the poor and middle class, where as they are negatively and significantly related with the incomes of the élite. The results in Table 1 indicate that though regulatory quality has weak relationship with the traditional measures of inequality but it has positive and relatively significant effects on the income share of middle income groups.

4.3. Political Institutions

The results in Table 1 indicate that political stability is one of the key factors to a more equal society and it is especially favourable to the wages of the unskilled

population. Furthermore, politically stable societies not only redistribute incomes to the middle income groups but they also benefit the lowest segments of the society equally. However, in comparison to political stability index, democracy has a weak relationship with inequality. It does not seem to matter much whether a country works under a democratised framework or an autocracy, the average effects on inequality have generally been insignificant. This is inline with the existing evidence which doesn't find any robust relationship between democracy and inequality in a cross country regression. 'Indeed a casual inspection of recent events in East Europe as well as in East Asia casts doubts that any such simple relationship may exist. It has been argued that, in the East European countries, democratization of the 90's actually resulted in an increase income inequality. Similarly, some of the East Asian countries such as South Korea, Taiwan, Singapore have had among the most egalitarian income distributions in the world, yet their political record is far from democratic. [Gradstein, *et al*. (2001) p. 1]. According to Glaeser, *et al.* (2004b), it is good leadership that matters and not whether a country has democratic setup or ruled under a dictatorship. Nevertheless, our results do show that democracy seem to favour middle class more than anybody else confirming the median voter argument that democratised countries with greater inequality of factor income tend to redistribute more to the less affluent [Milanovic (2000)]. This result may also seem much in line with current political set up initiated by the government of General Pervez Musharraf, whereby Pakistan may score low in democracy but has seen significant political stability, so much so that it seems that it would be the first time in the history of Pakistan a government will be able to complete its 5 year period. This political stability has been combined with a accelerated economic performance with increasing incomes of especially middle class.

4.4. Social Institutions

Education enhances the earnings potential of the poor, both in competing for jobs and earnings and as a source of growth and employment. The distribution of physical and human capital emerges from the theoretical and empirical literature as the key to distributional consequences of growth, and a determinant of growth itself [Kanbur (1998) p. 20]. The results (Table 1; Appendix I) show that average years of schooling (*Sch*) is negatively related with the *Gini*, and the relationship is significant in most cases suggesting countries which have a more educated population are also the ones where distribution of income is relatively less unequal. For example, in US the percapita income of the richest decile exceeds that of second richest decile by 60 percent only, where as in Latin America where Gini is also one of the highest among developing countries, the richest decile exceeds that of the second richest decile by 160 percent. In comparison to Latin America, US has highly educated population with average years of schooling at little more than 12 years and 99 percent of the adult population being literate.

Increased educational attainment also leads to less wage inequality. Along with the processes of globalisation the comparative advantage of developed nation lies in high skill intensive goods as lower skill intensive goods and services are being outsourced to developing nations. As the skill demand is increasing at greater pace than its supply, so is the wage of more skilled and educated labour thus increasing wage inequalities in developed nations. Harrigan and Balaban (1999) show that relative factor supply is an

important factor in determining the growing return to skill in US during 1963-91. Given the current situation of increasing inequality in most developed societies, of which globalisation is a much-cited culprit, policy-makers have been very keen to demand further public funding for schooling [Pereira and Martin (2000), p. 2]. Similarly education inequalities have led to wage inequality in developing countries specifically Latin America. Coincidently, Latin America has a Gini coefficient (about 0.50 for the region as a whole) which is approximately 15 points above the average for the rest of the world [Mamoon (2005)]. Londoño and Székely (1997) estimate that the low level of education of Latin American workers and the enormous inequality in educational assets account for the largest portion of the region's excessive inequality, larger than other contributing factors—lower physical capital accumulation, the relative abundance of natural resources, and a high concentration of land resources. In Latin America, only a relatively small proportion of the total population has completed secondary or higher education. These relatively few skilled workers earn a substantial wage premium due to their limited supply. Thus a poor distribution of education contributes to differentials in the returns to different levels of education, magnifying the effect of education gaps on income inequality.

Our results show that average years of schooling and adult literacy rate are significantly and negatively related with wage inequality, confirming that countries where education is more equally distributed or levels of average schooling are higher; wage inequality would be less severe. Though *Altr* is quite weakly related with the our inequality measures, results for *Sch* do imply that education has a strong redistributive power from richer segments of the society to the less affluent. A comparison of coefficients of *Middle20* and *Low10* suggests that education benefits middle class more than the poor.

CONCLUSIONS

This paper is an attempt to gauge the effects of different institutions on inequality. Though the literature is limited on the subject, the existing one suggests that there is two way causality between institutions and inequality. To this effect we solve the problem of endogeniety by utilising a set of instruments already in use for institutions. We used a rich set of openness and trade policy variables as controls in our multiple regression equations. This was done to also check the robustness of our results for institutions while increasing the explanatory power of our model.

Our results have reconfirmed that good quality institutions lead to decrease in inequality. It also appears that it is political stability that is more important than democracy. In line to previous studies, we find that it may not matter much whether a country is working under a democracy or autocracy, but it is good policies of the leaders which eventually determine the welfare enhancing effects through preservation of property rights etc. Good leadership which not only follow more market friendly policies but also keep institutional development at the fore of their policy choice is a key to economic development. On the basis of our relative significance, social and legal institutions are by far the most significant institutions apropos inequality suggesting their relative importance over other institutions. Rule of law is the best performing institution viz-a-viz inequality mitigation. If education

is more equally distributed among the population, relative wages of skilled and unskilled labour will have least amount of distortions especially when the country opens up to international trade. Among economic institutions, regulation is less important when compared to government's independent fiscal and monetary policy and its effective capacity to decentralise and its pro business orientation. The results in Table 1 also suggest that Middle class comes out to be the main beneficiary of good quality institutions than any other income group as *Middle20* equations give most significant results.

Appendix Table I

Significance Count of Institutions under Augmented Regression Analysis for Inequalities

Independent Variables	Dependent Variables							
	Theil	Gini	High20/Low20	Middle20	Low10	High10	Cases of Significance by Rows	Total Cases of Correct Signs
Legal Institutions								
Voice and Accountability (Va)	5 out of 12	3 out of 12	5 out of 12	7 out of 12	2 out of 12	7 out of 12		
(Negative Sign)	(5 out of 5)	(3 out of 3)	(5 out of 5)	(0 out of 7)	(1 out of 2)*	(7 out of 7)	29 out of 72	28 out of 29
Rule of Law (Rl)	5 out of 12	4 out of 12	9 out of 12	10 out of 12	9 out of 12	10 out of 12		
(Negative Sign)	(5 out of 5)	(4 out of 4)	(9 out of 9)	(0 out of 10)	(0 out of 9)	(10 out of 10)	47 out of 72	47 out of 47
Control of Corruption (Ctc)	5 out of 12	4 out of 12	8 out of 12	9 out of 12	8 out of 12	9 out of 12		
(Negative Sign)	(5 out of 5)	(4 out of 4)	(8 out of 8)	(0 out of 9)	(0 out of 8)	(9 out of 9)	45 out of 72	45 out of 45
Economic Institutions								
Government Effectiveness (Ge)	5 out of 12	3 out of 12	8 out of 12	9 out of 12	8 out of 12	8 out of 12		
(Negative Sign)	(5 out of 5)	(3 out of 3)	(8 out of 8)	(0 out of 9)	(0 out of 8)	(8 out of 8)	41 out of 72	41 out of 41
Regulatory Quality (Rq)	3 out of 12	2 out of 12	2 out of 12	6 out of 12	1 out of 12	5 out of 12		
(Negative Sign)	(3 out of 3)	(2 out of 2)	(2 out of 2)	(0 out of 6)	(1 out of 1)*	(5 out of 5)	19 out of 72	18 out of 19
Political Institutions								
Democracy (Dem)	3 out of 12	3 out of 12	4 out of 12	7 out of 12	1 out of 12	5 out of 12		
(Negative Sign)	(3 out of 3)	(3 out of 3)	(4 out of 4)	(0 out of 7)	(1 out of 1)*	(4 out of 5)*	30 out of 72	28 out of 30
Autocracy (Aut)	3 out of 12	0 out of 12	0 out of 12	3 out of 12	2 out of 12	2 out of 12		
(Negative Signs)	(0 out of 12)	(0 out of 0)	(0 out of 0)	(3 out of 3)	(0 out of 2)*	(2 out of 2)	10 out of 72	8 out of 10
Political Stability (Ps)	5 out of 12	4 out of 12	8 out of 12	9 out of 12	8 out of 12	9 out of 12		
(Negative Sign)	(5 out of 5)	(4 out of 4)	(8 out of 8)	(0 out of 9)	(0 out of 12)	(9 out of 9)	53 out of 72	53 out of 53
Social Institutions								
Average Schooling Years (Sch)	9 out of 12	6 out of 12	6 out of 12	7 out of 12	5 out of 12	6 out of 12		
(Negative Sign)	(9 out of 9)	(6 out of 6)	(6 out of 6)	(0 out of 7)	(0 out of 5)	(6 out of 6)	39 out of 72	39 out of 39
Adult Literacy Rate (Altr)	8 out of 12	2 out of 12	1 out of 12	1 out of 12	3 out of 12	1 out of 12		
(Negative Sign)	(8 out of 8)	(1 out of 2)*	(1 out of 1)	(1 out of 1)	(1 out of 3)*	(1 out of 1)	16 out of 72	14 out of 16
Cases of Significance (by Columns)	51 out of 120	31 out of 120	51 out of 120	68 out of 120	47 out of 120	62 out of 120	–	–

* Observation made that a variable has entered the equation significantly but with a wrong sign.
Significance is observed at 1 percent, 5 percent and 10 percent levels.

DATA AND SOURCES

Altr	Adult Literacy Rate, Year: 1999, Source: WDI (2002)
Auto	Autocracy, Year: 1999, Source: Polity IV dataset
Ctc	Control for Corruption, Year: 1997/98. Source: Kaufman, *et al*. (2002)
Demo	Democracy, (numeric) Range = 0-10 (0 = low; 10 = high), Democracy Score: general openness of political institutions. The 11-point Democracy scale is constructed additively. Year: 1999, Source: Polity IV dataset
Disteq	Distance from Equator of capital city measured as abs (Latitude)/90. Source: Rodrik, Subramanian and Trebbi (2002)
Engfrac	Fraction of the population speaking English. Source**:** Rodrik, Subramanian and Trebbi (2002)
Eurfrac	Fraction of the population speaking one of the major languages of Western Europe: English, French, German, Portuguese, or Spanish. Source: Rodrik, Subramanian and Trebbi (2002)
Ge	Government Effectiveness, Year: 1997/98. Source: Kaufman, *et al*. (2002)
Gini	Coefficient in Percentage Points as calculated by WIDER. Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm
High10	Highest Income Decile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm
High20	Fifth Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm
Sch	Average Schooling Years in the total population at 25,Year: 1999. Source: Barro R and J. W. Lee data set, http://post.economics.harvard.edu/faculty/barro/data.html
Impnov85	Import Penetration: overall, 1985. Source: Rose (2002)
Impnov82	Import Penetration: overall, 1982. Source: Rose (2002)
Lcopen	Natural logarithm of openness. Openness is given by the ratio of (nomnal) imports plus exports to GDP (in nominal US dollars), Year: 1985. Source: Penn World Tables, Mark 6
Logfrankrom (FR)	Natural logarithm of predicted trade shares computed following Frankel and Romer (1999) from a bilateral trade equation with 'pure geography' variables. Source: Frankel and Romer (1999).
Low 10	Lowest Income Decile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm
Low20	First Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm

Continued—

Data and Sources—(*Continued*)

Nontarfov	Non-tariff Barriers Coverage: Overall, 1987. Source: Rose (2002).
Open80s	Sachs and Warners (1995) composite openness index. Source: Rose (2002).
Owqi	Non-trade Barriers Frequency on intermediate inputs, Capital goods, 1985. Source: Rose (2002).
Owti	Tariffs on Intermediate and Capital Goods, 1985. Source: Rose (2002)
Ps	Political Stability, Year: 1997/98. Source: Kaufman, *et al*. (2002)
Ptr	Pupil Teacher Ratio, Primary, Year: 1999, Source: WDI (2002)
Rl	Rule of Law, Year: 1997/98. Source: Kaufman, *et al.* (2002)
Rq	Regulatory Quality, Year: 1997/98. Source: Kaufman, *et al*. (2002)
Tarshov85	TARS Trade Penetration: overall, 1985. Source: Rose (2002).
Tarshov82	TARS Trade Penetration: overall, 1982. Source: Rose (2002).
Tariffs	Import Duties as Percentage imports, Year:1985. Source: World Development Indicators (WDI), 2002.
Theil	UTIP-UNIDO Wage Inequality THEIL Measure-calculated based on UNIDO2001 by UTIP, Year: 1997. Source: University of Texas Inequality Project (UTIP) http://utip.gov.utexas.edu
Tlex	Public Spending on Education, Total (as a percentage of GDP), Year: 1999, Source: WDI (2002)
Thrd20	Third Income Percentile, Year: 1995, Source: UNU/WIDER World Income Inequality Database (WIID) http://www.wider.unu.edu/wiid/wiid.htm
Totimpov	Weighted Average of Total Import Charges: Overall, 1985. Source: Rose (2002)
Txtrg	Trade taxes / trade, 1982. Source: rose (2002)
Va	Voice and Accountability, Year: 1997/98. Source: Kaufman, *et al*. (2002).

REFERENCES

Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001) The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review* 91:5, 1369–1401, http://emlab.berkeley.edu/users/chad/e236c_f04/ajr2001.pdf

Alcala, Francisco, and Antonio Ciccone (2001) Trade and Productivity. (CEPR Discussion Paper No. 3095.)

Barreto, Raul A. (1996) Endogenous Corruption, Inequality and Growth: Econometric Evidence. University of Colorado, September.

Chong, Alberto, and Mark Gradstein (2004) Inequality and Institutions. Inter-American Development Bank. (Working Paper No. 506.)

Cockburn, John (2002) Trade Liberalisation and Poverty in Nepal: A Computable General Equilibrium Micro Simulation Analysis. The Centre for the Study of African Economies Working Paper Series. (Working Paper 170.)

Collier, Michael W. (2002) The Effects of Political Corruption on Caribbean Development. Caribbean Studies Association Annual Conference.

Cornai, Giovanni, Tony Addison Andrea, and Sampsa Kiiski (2004) Income Distribution Changes and Their Impact in the Post-Second World War Period. In Cornia Andrea Giovanni (eds.) *Inequality, Growth, and Poverty in an Era of Liberalisation and Globalization*. Oxford Press for UNU_WIDER and UNDP.

Dollar, David, and Aart Kraay (2003) Institutions, Trade and Growth. *Journal of Monetary Economics* 50:1, 133–162.

Dollar, David, and Aart Kraay (2004) Trade, Growth, and Poverty. *Economic Journal* 114, F22–F49.

Easterly, W. (2004) The Middle Class Consensus and Economic Development. *Journal of Economic Growth* 6:4, 317–336.

Edwards, Sebastian (1998) Openness, Productivity and Growth: What Do We Really Know? *Economic Journal* 108, 383–398.

Engerman, S. L., and K. L. Sokoloff (2002) Factor Endowments, Inequality, and Paths of Development among New World Economies. (NBER Working Paper No. 9259.)

Frankel, Jeffery, and David Romer (1999) Does Trade Cause Growth? *American Economic Review* 89:3, 379–399.

Friedman, Jed (2000) Differential Impacts of Trade Liberalisation on Indonesia's Poor and Non-Poor. Conference on International Trade and Poverty, Stockholm.

Galbraith, Jame K., and Hyunsub Kum (2002) Inequality and Economic Growth: Data Comparisons and Econometric Tests. The University of Texas at Austin. (UTIP Working Paper No. 21.)

Glaeser, Edward, L., Raphael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2004a) Do Institutions cause Growth. *Journal of Economic Growth* 9:3 271–303.

Glaeser, Edward, L., Raphael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2004b) Explaining Growth: Institutions, Human Capital, and Leaders. (Preliminary Draft). http://www.brook.edu/es/commentary/journals/bpea_macro/papers/20040325_glaeser.pdf

Gradstein, Mark, Branko Milanovic, and Yvonne Ying (2001) Democracy and Income Inequality: An Empirical Analysis. (Unpublished).

Greenaway, David, Wyn Morgan, and Peter Wright (2001) Trade Liberalisation and Growth in Developing Countries. *Journal of Development Economics* 67, 229–224.

Gupta, Sanjeev, Hamid Davoodi, and Rosa Alonso-Terme (1998) Does Corruption Affect Income Inequality and Poverty? (IMF Working Paper, WP/98/76.)

Hall, Robert E., and Charles Jones (1999) Why do Some Countries Produce So Much More Output per Worker than Others? *Quaterly Journal of Economics* 114, 83–116.

Harrigan, James, and Rita Balaban (1999) U.S. Wages in General Equilibrium: The Effects of Prices, Technology, and Factor Supplies, 1963-1991. (NBER Working Paper No. 6981.)

Hellman, J. and Daniel Kaufmann (2002) *The Inequality of Influence*. Washington, DC, World Bank. <http://www.bepress.com/csae/paper170> <http://www.econ.jhu.edu/jobmarket/2005/khalifa/Chapter2Khalifa.pdf>

Justino, Patricia (2004) Redistribution, Inequality and Political Conflict. Poverty Research Unit, Sussex. (PRUS Working Paper No. 18.)

Kaufman, Daniel, Aaart Kraay, and Zoido-Lobaton (2002) Governance Matters II: Updated Indicators for 2000-01. The World Bank. (Policy Research Working Paper 2772.) http://www.worldbank.org/wbi/governance/pdf/govmatters2.pdf

Keefer, P. (2002) Polarisation, Politics, and Property Rights: Links between Inequality and Growth. *Public Choice* 111:1-2, 127–54.

Khalifa, Sherif (2005) Monetary Policy, the Skill Premium, and Unemployment Across Skills. (Working Paper.)

Lofgren, Hans (1999) Trade Reform and the Poor in Morocco: A Rural-Urban General Equilibrium Analysis of Reduced Protection. IFPRI, Washington, DC. (TMD Discussion Paper No. 38.)

Londono, J. L. and M. Szekely (1997) Distributional Surprises After a Decade of Reforms: Latin America in the Nineties. In R. Hausman and E. Lora (eds.) *Latin America After a Decade of Reforms: What Comes Next?* Washington, DC: Inter-American Development Bank.

Mamoon, Dawood (2004) What Matters Most Apropos Neo Classical Free Market Paradigm: 'Poverty or Inequality'? Conference paper, 2nd Development Dialogue on 'Globalisation, Poverty and Inequality', Institute of Social Studies, The Hague, The Netherlands.

Mamoon, Dawood (2005) *Education for all is central to Higher Education Reforms in Developing Countries.* In Ad Boeren and Gerrit Holtland (eds.) *A Changing Landscape-making Support to Higher Education and Research in Developing Countries More Effective.* The Netherlands: NUFFIC. <http://www.nuffic.net/common.asp?id=1704>

Mamoon, Dawood, and S. Mansoob Murshed (2005) Are Institutions More Important than Integration? Institute of Social Studies. (Working Paper Series No. 416.)

Milanovic, Branko (2000) The Median-Voter Hypothesis, Income Inequality, and Income redistribution: An Empirical Test with the Required Data. *European Journal of Political Economy* 16, 367–410.

Murshed, Mansoob S. and Scot Gates (2003) *Spatial-Horizontal Inequality and the Maoist Insurgency in Nepal*. DFID.

Norris, Pippa (2001) Giving Voice to the Voiceless. John F. Kennedy School of Government, Harvard University, (Darft Version).

Pereira, Pedro, Telhado, and Silva Pedro Martins (2000) Does Education Reduce Wage Inequality? Quantile Regressions Evidence from Fifteen European Countries. (Unpublished.) http://portal.fe.unl.pt/FEUNL/bibliotecas/BAN/WPFEUNL/WP2000/wp379.pdf

Rodrik, Dani (1999) Institutions for High Quality Growth: What They are and How to Acquire Them. IMF Conference on Second Generation Reforms.

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi (2004) Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development. *Journal of Economic Growth* 9:2, 131–165.

Rose, Andrew (2002) Do WTO Members Have a More Liberal Trade Policy? (NBER Working Paper 9347.)

Roy, Rathin, and John Weeks (2003) Making Fiscal Policy Work for the Poor.

Rutkowski, J. (1999) Wage Inequality in Transition Economies of Central Europe: Trends and Pattern in the Late 1990s.

Sachs, Jeffrey D., and Andrew Warner (1995) Economic Reform and Process of Global Integration. *Brookings Papers on Economic Activity* 1, 1–118.

Segura-Cayuela, Ruben (2005) *Inefficient Policies, Inefficient Institutions and Trade*. Job Market Paper, MIT.

Slaughetr, M. J. (2000) What are the Results of Product-price Studies and What Can We Learn From Their Differences? In R. C. Feenstra (ed.) *The Impact of International Trade on Wages*. Chicago: University of Chicago Press, 129–165.

Smeeding, M. Timothy (2002) Globalisation, Inequality and the Rich Countries of the G-20: Evidence from the Luxembourg Income Study (LIS). Social Policy Research Centre (SPRC). (Discussion Paper No. 122.)

Tanzi, Vito (1995) Corruption: Arms Length Relationships and Markets. In Gianluca Fiorentini and Sam Peltzman (eds.) *The Economics of Organised Crome*. Cambridge: Cambridge University Press, England.

UNDP (1997) *Human Development Report*. United Nations Development Programme.

Yudaeva, Ksenia (2003) Globalisation and Inequality in CIS Countries: Role of Institutions. (GDN Conference Paper.)

Comments

This paper assesses the relevance of different institutions for reducing inequality. It begins by discussing inequality trends in general and the links between inequality and institutions in particular. For the analysis, institutions are grouped into four categories; (1) Legal, (2) Political, (3) Economic and (4) Social. The paper basically uses governance indicators compiled by Kaufman, *et al.* (2002) and Polity dataset for their institutions variable.

My first concern is about the grouping of different institutional indices. The authors group Rule of Law (Rl), Voice and Accountability (Va) and Control of Corruption (Ctc) as Legal institutions. This is problematic because Kaufman, *et al.* (1999) themselves treat 'Voice and Accountability' as an indicator of political institutions of a society (along with Political Stability) measuring aspects of political process, civil liberties and political rights, and not as a measure of legal institutions. I am also concerned about classifying Average Schooling Years as Social institutions. It seems inappropriate to use educational outcomes (average years of schooling) as institutions; which are the rule societies live by. The authors need to come up with better definition of social institutions. The authors rightly use Political Stability (Ps) as a measure of Political institution along with Democracy and Autocracy from the Polity dataset; and Government Effectiveness (Ge) and Regulatory Quality (Rq) as measure of Economic institutions.

The issue of grouping is important because the essence of the paper is to check relevance of *different* institutions for inequality reduction. Particularly, their results suggest that legal and social institutions are most relevant for inequality mitigation. One cannot endorse this result if the indicators for legal and social institutions are not defined correctly. On the other hand, various measures of judicial independence, its efficiency and impartiality are available-here I can quote the work of Djankov, *et al.* (2003) and I strongly recommend the authors to consider these as alternative measures of legal institutions.

On social institutions, the paper reports that countries with more educated population have a relatively equal distribution of income, implying that social institutions—as measured by educational outcomes—are important for reducing inequality. It could be the case that countries with more homogenous distribution of resources have better educational outcomes, as proposed by Engerman and Sokoloff (1994), and in present case the instrument for social institutions (total public expenditure on education and primary student-teacher ratio) is not effective in handling reverse causation problem.

In the case of many socialist countries, legal institutions have not been able to protect the rights of people and the political institutions reign supreme. Acemoglu, *et al.* (2005) consider political institution as the ultimate as they determine the distribution of

power in the society, which shapes and is shaped by the distribution of resources in a country. It would be interesting to see if redefinition and regrouping of institutional indicators sheds more light on the relation between institutional development and resource distribution.

Lubna Hasan

Pakistan Institute of Development Economics,
Islamabad.

REFERENCES

Acemoglu, D., S. Johnson, and J. A. Robinson (2005) Institutions as the Fundamental Cause of Long-Run Growth. In P. Aghion and S. Durlauf (eds.) *Handbook of Economic Growth*. North Holland.

Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer (2003) Courts. *Quarterly Journal of Economics* 118: May, 453–517.

Engerman, S. L. and K. L. Sokoloff (1994) Factor Endowments, Institutions and Differential Paths of Growth Among New World Economies: A View from Economic Historians of the United States. National Bureau of Economic Research. (NBER Historical Paper No. 66.)